

REMARKS

Favorable consideration and allowance of the claims of the present application are respectfully requested.

In the present Official Action, the Examiner rejected Claims 1-23 under 35 U.S.C. §103(a) as allegedly being unpatentable over Schiller (US 2002/0031243) (“Schiller”) in view of Pittel (US 2003/0095708)(“Pittel”).

Applicants respectfully disagree.

In the Response to Applicant’s Arguments section on page 2, item 3, the Examiner interprets the current limitation in claim 1 “said tilt parameters determined by two points in three-dimensional space” as not limited to only two points as applicants have argued in their last response of June 3, 2008. That is, as was previously argued, the cited reference to Pittel requires three points to discern tilt information and that the present invention “only” required two points to discern tilt information including a tilt angle. To clarify the language, claim 1 is being amended to set forth the tilt parameters including a tilt angle determined by only two points in three-dimensional space. No new matter is being entered as the specification as originally filed, e.g., paragraph [0029] in view of Fig. 6, teaches the calculation of points L and U in XYZ space each point of which is described by 3 coordinates in the XYZ space (U_x,U_y,U_z and L_x,L_y,L_z) as taught at ¶¶[0029]-[0030] of the present specification.

Respectfully, the combined teachings of Schiller and Pittel do not teach the present invention. In a first instance, Schiller (as taught at ¶[0029]) provides handwriting recognition by capturing “x, y vectors” e.g., defined in an x, y space. Further, even though Schiller states

that use of additional pen tilt data increases accuracy, Schiller provides no teaching as to how that can be performed.

The Examiner cites Pittel to make up that teaching. However, Pittel does not teach the claims of the present invention as now amended. That is, Pittel does not teach that only two points can be used to determine tilt angle parameter. While the Examiner cites Fig. 1 and ¶[0028] of Pittel as teaching the use of at least two points, applicants do not see this at all. That is, paragraph ¶[0028] is silent as to how a tilt angle is calculated and really only discusses the use of various light sources or reflectors to track pen movement. Fig. 1 shows two points on the pen, however, respectfully, this Fig. 1 of Pittel is not related to any disclosure describing use of only two points in a method for calculating tilt angle for use in handwriting recognition. Thus, respectfully, it is not clear from the combined teachings of Schiller and Pittel how to calculate tilt parameters based on determining only two points and the Examiner has not made a prima facie case of obviousness.

Moreover, while Pittel teaches the use of light sources to improve tracking and other uses, for example tilt calculation, Pittel states at paragraph ¶[0033] more than two light sources are needed for tilt calculation. As the Examiner appears to acknowledge, Pittel requires three light sources placed along the length of the writing instrument as indicated.

Further, Pittel appears to teach a generic method of tracking a stylus primarily using light sources (or contrast markers) on the pen device, as there is no indication that the use of the Pittel invention is contemplated for a digitized touch-sensitive writing surface of a pervasive (digital) device. This is clearly evidenced from ¶[0025] and ¶[0071] of Pittel (indicating “a writing surface may not be necessary at all”) and the fact that Pittel requires sensor devices to achieve tracking of the pen or stylus movement in addition to a camera (see

Pittel's tilt sensing approach applied for "systems in which sensing of hand-motion is performed by triangulation from two sensors" ¶[0060] of Pittel), thus bolstering applicant's argument that Pittel's approach is not readily combinable PDA's having a touch screen (touch-sensitive) writing surface.

Thus, in sum, Pittel teaches away from the present invention as it is not contemplated for use with a touch sensitive PDA touch screen display. Pittel, in fact, encourages use of more than two light sources to enhance signal to noise ratio to resolve the position of the tip of the pen (¶[0042] of Pittel). Even when combined with Schiller, at best, the combined teachings will provide skilled artisans a technique for calculating a pen's tilt angle using three points to resolve.

To the contrary, the claimed invention as claimed in amended Claims 1, 9, 17 requires only two points for calculating a tilt angle i.e., the exact coordinates only need to be determined for two (2) points belonging to a line going through the pen as suggested by the equation (1) at page 7, paragraph [0029] of the originally filed specification.

Pittel teaches away from the present invention in that it requires three points to discern tilt information.

The applied combination of Schiller and Pittel would not lead one skilled in the art to procure a dynamic handwriting recognition system for a pervasive device that includes calculation of tilt parameters including a tilt angle determined by only two points in three-dimensional space.

Thus, in view of the clarifying amendments, Schiller and Pittel does not render the present invention obvious and the Examiner is respectfully requested to withdraw the rejections of independent Claims 1, 9 and 17 under 35 U.S.C. §103(a) as being unpatentable

over Pittel in view of Schiller whether taken alone or in combination, and, further, to withdraw the rejections of all remaining dependent claims. With respect to remaining dependent claims, these are allowable as being dependent upon respective independent claims.

Thus, the two references are non-combinable as each, being stand-alone handwriting recognition systems of disparate modalities, teaches away from the use of the other. Heretofore, there has never been any teaching or suggestion to combine the two disparate handwriting recognition systems in the low-cost manner as now claimed.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance be issued. If the Examiner believes that a telephone conference with the Applicants' attorneys would be advantageous to the disposition of this case, the Examiner is requested to telephone the undersigned, Applicants' attorney, at the following telephone number: (516) 742-4343.

Respectfully submitted,



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